

REMARKS

Claims 1, 4 and 5 are pending in this Application. Claim 1 has been amended. Care has been exercised to avoid the introduction of new matter. Indeed, adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure noting, for example, page 19 of the written description of the specification, lines 4 and 5. Applicants submit that the present Amendment does not generate any new matter issue.

Initially, Applicants acknowledge, with appreciation, Examiner Group's courtesy in conducting a telephonic interview on December 13, 2005. During the telephonic interview, Examiner Group agreed that the rejections under the first and second paragraphs of 35 U.S.C. § 112 would be overcome if claim 1 were amended in accordance with the present Amendment. It is with this understanding that the present Amendment is submitted.

Claims 1, 4 and 5 were rejected under the first paragraph of 35 U.S.C. § 112 for lack of adequate descriptive support.

Claims 1, 4 and 5 were also rejected under the second paragraph of 35 U.S.C. § 112.

Each of the above rejections under 35 U.S.C. § 112 is traversed. As previously mentioned, during the telephonic interview on December 13, 2005, Examiner Group agreed that the present Amendment would overcome the imposed rejections under the first and second paragraphs of 35 U.S.C. § 112. The claimed aluminum nitride ceramic base material exhibits specific properties after a single heat treatment at 850°C for one hour. Certainly, one having ordinary skill in the art would have no difficulty understanding the scope of the claimed invention, particularly when considered in the context of the present invention. *Miles*

Laboratories, Inc. v. Shandon, Inc., 997 F.2d 870, 27 USPQ2d 1123 (Fed. Cir. 1993). As previously pointed out, on page 19 of the written description of the specification, lines 4 et seq., it is disclosed that Table 2 sets forth the properties, including the increment in warp, after heat treatment at 850°C for one hour.

Applicants, therefore, submit that the Examiner's rejections of claims 1, 4 and 5 under the first and second paragraphs of 35 U.S.C. § 112 are not viable and, hence, solicit withdrawal thereof.

Claims 1, 4 and 5 were rejected under 35 U.S.C. § 102 for lack of novelty, or alternatively, under 35 U.S.C. § 103 for obviousness predicated upon Harris et al., Chiao, Yasumoto et al., Sugiura et al. and JP '265, each taken alone.

This rejection is traversed.

Independent claim 1 is directed to an aluminum nitride ceramic base material that exhibits certain properties, including an increment in warp after a single heat treatment at 850°C for one hour of not more than 2.0×10^{-2} $\mu\text{m}/\text{mm}$. As previously argued of record, none of the applied references discloses or suggests the properties of the claimed aluminum nitride ceramic base material, notably the uniformity of sintering agents and increment in warp. Indeed, none of the applied references recognizes, discloses or addresses the problem of increment in warp after heat treatment, let alone recognizes that it is related in any way to the uniformity of sintering agents (a/b), as specifically recited in independent claim 1.

The Examiner's rejection is predicated upon inherency. However, as previously argued of record, inherency requires **certainty**, not speculation. *Crown Operations International Ltd. v. Solutia Inc.*, 289 F.3d 1367, 62 USPQ2d 1917 (Fed. Cir. 2002); *Finnegan Corp. v. ITC*, 180

F.3d 1354, 51 USPQ2d 1001 (Fed. Cir. 1999); In re Robertson, 169 F.3d 743, 49 USPQ2d 1949 (Fed. Cir. 1999); Electro Medical Systems S.A. v. Cooper Life Sciences, Inc., 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994); In re Rijckaert, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993); Continental Can Co. USA, Inc. v. Monsanto Co., 948 F.2d 1264, 20 USPQ2d 1746 (Fed. Cir. 1991). There is a factual basis upon which to predicate the conclusion that the doctrine of inherency is **not** applicable in the present situation, and that **none** of the applied references discloses or suggests the claimed invention, much less put the claimed invention into the possession of the public.

Evidence Undermining Inherency

Adverting to Table 2 on page 20 of the written description of the specification, each and every sample in accordance with the present invention, heat-treated at 850°C for one hour, and having a uniformity of sintering agents a/b less than or equal to 1.3, as specifically recited in claim 1, **exhibited an increment in warp after a single heat treatment of no greater than 2.0×10^{-2} um/mm**. However, comparative examples 22 through 25 exhibited an increment in warp greater than that specified in claim 1, and these samples had a ratio a/b greater than 1.3. While comparative examples 28 and 29 had a low increment in warp, the samples exhibited totally unsatisfactory warp after sintering. **Again, the applied prior art is oblivious to the problem of increment in warp after heat treatment.**

The data clearly establish that the reduced increment in warp after heat treatment at 850°C for one hour, as specified in independent claim 1, does **not just happen by chance**, as evidenced by comparative example 22, 23, 24 and 25. Neither does the advantageously low warp after sintering. Rather, Applicants **discovered** that the reduced increment in warp after

heat treating and as well as warp after sintering are linked to the uniformity of sintering agents as specified in independent claim 1. **Thus, Applicants have specified not only the ratio a/b but also have quantified the maximum increment in warp after a particular heat treatment at 850°C for one hour.**

As previously pointed out, the increment in warp after heat treatment is **not a problem recognized** by the any of the applied references. Neither is the significance of the uniformity of sintering agents. Clearly, none of the applied references recognized the **nexus** between the uniformity of sintering agents and increment in warp. The possibility that one having ordinary skill in the art might **stumble** into the claimed invention is **not** a basis for defeating the patentability of the claimed invention. *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983); *In re Oelrich*, 666 F.2d 578, 212 USPQ 323 (CCPA 1981).

Based upon the foregoing it should be apparent that a *prima facie* basis to deny patentability to the claimed invention under 35 U.S.C. § 102 has not been established for lack of the requisite factual basis. Moreover, there is no factual basis upon which to predicate the conclusion that one having ordinary skill in the art would have been realistically motivated to modify any of the articles disclosed in the applied references to arrive at the claimed invention absent, of course, improper reliance upon Applicants' disclosure. *Panduit Corp. v. Dennison Mfg. Co.*, 774 F.2d 1082, 227 USPQ 337 (Fed. Cir. 1985).

Applicants, therefore, submit that the imposed rejection of claims 1, 4 and 5 under 35 U.S.C. § 102 for lack of novelty, or alternatively, under 35 U.S.C. § 103 for obviousness predicated upon Harris et al., Chiao, Yasumoto et al., Sugiura et al. and JP '265, each considered alone, is not factually or legally viable and, hence, solicit withdrawal thereof.

Based upon the foregoing it should be apparent that the imposed rejections have been overcome and that all pending claims are in condition for immediate allowance. Favorable consideration is, therefore, solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



Arthur J. Steiner

Registration No. 26,106

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 AJS:bjs:ntb
Facsimile: 202.756.8087
Date: May 10, 2006

**Please recognize our Customer No. 20277
as our correspondence address.**